

20140092



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**Chattanooga, TN 37343**  
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**Site:**

**ABC PARKING LOT**

**Project No.:**

**01234**

**System:**

**AS-3**

**Date:**

**1/21/09**

**U.S. Patent No. 6524473**

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SAFETY & BUILDINGS

### 1.3 General Equipment Design

A unique quality of the Aqua-Swirl® is its modular design which allows for faster and simpler installation on new construction or retrofit projects for existing storm drainage structures. The Aqua-Swirl® can operate in an “offline” configuration through the use of a separate diversion structure, or weir device located upstream of the device. The diversion structure directs only the designed water quality treatment flow (WQ<sub>f</sub>) for treatment. The Aqua-Swirl® can also be installed “inline” (also referred to as “online”) by using the internal conveyance flow diversion (CFD) design.

The diameter of the swirl chamber varies from 2.5 to 13 feet depending on model size needed to treat the design storm WQ<sub>f</sub>. Table 1 summarizes the available Aqua-Swirl® models, swirl chamber inner diameters, and oil/debris and sediment storage capacities.

Table 1. Aqua-Swirl® Models and Storage Capacities

Aqua-Swirl® Model	Swirl Chamber Inner Diameter (ft)	Oil/Debris Storage Capacity (gal)	Sediment Storage Capacity (ft <sup>3</sup> )
AS-2	2.5	37	10
AS-3	3.3	110	20
AS-4	4.3	190	32
AS-5	5.0	270	45
AS-6	6.0	390	65
AS-7	7.0	540	90
AS-8	8.0	710	115
AS-9	9.0	910	145
AS-10	10.0	1,130	180
AS-11	11.0	1,422	222
AS-12	12.0	1,698	270
AS-13	13.0	1,986	310
AS-XX	Custom*		

\* Custom designs to meet site-specific criteria, can include multiple (twin) units.

The Aqua-Swirl® is also designed so that it can easily be used for retrofit applications. When the invert of the inlet and outlet pipe of the Aqua-Swirl® is positioned at the same elevation, the unit can easily be connected directly to the existing storm conveyance drainage system.

Shop drawings and any other pertinent design drawings are provided on a site-specific basis. Additional information on custom designs and detail drawings can be provided on request for each of the construction materials available for the Aqua-Swirl® (see Section 2.0 construction materials).